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10/540,114	05/12/2006	Solve J. Fjordingstad	03438.0116	1565
22852 7590 11/23/2007 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413				
			EXAMINER LARKIN, DANIEL SEAN	
			ART UNIT 2856	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/540,114

Applicant(s)

FJERDINGSTAD ET AL.

Examiner

Daniel S. Larkin

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 7,8 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/30/05 & 10/27/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to because of the following:

Lead lines are missing from Figure 1.

The shading of Figure 3 is rough and blurred, which makes it difficult to identify the structure in the drawing figure.

The scale of Figure 3 is not large enough to show mechanism without crowding when the drawing is reduced in size to two-thirds in reproduction.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "4" has been used to designate both an "input" and "an output of the flow section as shown in Figure 1.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. The disclosure is objected to because of the following informalities:

Page 1, line 3: Reference to the claims should be deleted.

Page 1, lines 5 and 6: Reference to the claims should be deleted

Page 3, line 14: The term "inventions" should be corrected to read -- invention --; and the term "as" should be deleted.

Page 3, lines 23, 25, and 27: The "commas" should be replaced with -- semicolons --;

Page 3, line 30: The "comma" should be replaced with a -- semicolon --; and the conjunction -- and -- should be inserted after the term "characteristics".

Page 3, line 31: The article -- an -- should be inserted prior to the term "exit".

Page 3, line 33: A -- comma -- should be inserted after the term "invention".

Page 3, line 37: A -- comma -- should be inserted after the term "Furthermore".

Page 4, line 2: A -- comma -- should be inserted after the term "embodiment".

Page 4, line 6: A -- comma -- should be inserted after the term "invention".

Page 4, line 7: A -- comma -- should be inserted prior to the term "such".

Page 4, line 10: A -- comma -- should be inserted after the term "Furthermore".

Page 4, line 14: The article -- a -- should be inserted prior to the term "hydraulic".

Page 4, line 22: A -- semicolon -- should be inserted after the term "chamber".

Page 4, lines 23, 24, and 26: The "comma" should be replaced with

-- semicolons --.

Page 4, line 28: The "comma" should be replaced with a -- semicolon --; and the conjunction -- and -- should be inserted after the term "analyzed".

Page 4, line 31: A -- comma -- should be inserted after the term "Furthermore".

Page 5, line 1: The phrase -- BRIEF DESCRIPTION OF THE DRAWING  
FIGURES -- should be inserted prior to the introduction of the paragraph.

Page 5, line 7: The phrase -- DETAILED DESCRIPTION OF THE PREFERRED  
EMBODIMENTS -- should be inserted prior to the introduction of the paragraph.

Page 5, line 9: The term "figure" should be corrected to read -- Figure --.

Page 5, line 14: The article -- the -- should be inserted after the term "with".

Page 5, line 16: The term -- flow section -- should be inserted prior to the  
numeral "4".

Page 5, line 33: A -- comma -- should be inserted after the term "addition".

Page 6, line 6: The term "figure" should be corrected to read -- Figure --.

Page 6, line 14: A -- comma -- should be inserted after the term "Also".

Page 6, line 16: Both occurrences of the term "figure" should be corrected to read -- Figure --; and a -- comma -- should be inserted after the numeral "3".

Page 6, line 17: The term "figure" should be corrected to read -- Figure --.

Page 6, line 18: The phrase "in the following:" should be corrected to read -- below. --.

Page 6, line 23: The article -- a -- should be inserted prior to the term "fully".

Page 6, line 30: The term "drop" should be deleted and reinserted prior to the term "very"..

Page 6, line 33: The term "trough" should be corrected to read -- through --.

Page 6, line 34: A -- comma -- should be inserted after the term "case".

Page 7, line 3: A -- comma -- should be inserted after the term "Alternatively".

Page 8, line 1: The term "CLAIMS" should be replaced with a phrase, such as -- What Is Claimed Is: -- or -- What We Claim Is: --. Appropriate correction is required.

### ***Claim Objections***

6. Claims 1-6 are objected to because of the following informalities:

Re claim 1, claim lines 4, 14, and 16: The "commas" should be replaced with a -- semicolon --.

Re claim 1, claim lines 5 and 10: The inlet (4) and the outlet have the same reference numeral? The claims need to be written such that the claims do not require reference numerals for clarity.

Re claim 1, claim line 12: The phrase "characterized by" should be corrected to read -- further comprising --.

Re claim 1, claim line 17: The conjunction "and" should be deleted.

Re claim 1, claim line 19: The phrase "the fluid characteristics" lacks antecedent basis.

Re claim 1, claim line 19: The "comma" should be replaced with a -- semicolon --; and the conjunction -- and -- should be inserted after the term "characteristics".

Re claim 1, claim line 20: The article -- an -- should be inserted prior to the term "exit".

Re claim 2, claim line 2: The phrase "characterized by that" should be corrected to read -- further comprising --.

Re claims 3-6, claim line 2: The phrase "characterized by" should be corrected to read -- further comprising --.

Re claim 9, claim lines 3, 4, and 6: The "commas" should be replaced with a -- semicolon --.

Re claim 9, claim lines 3 and 5: The inlet (4) and the outlet have the same reference numeral? The claims need to be written such that the claims do not require reference numerals for clarity.

Re claim 9, claim line 4: The conjunction -- and -- should be inserted after the term "path".

Re claims 10-12, claim line 2: The phrase "characterized by" should be corrected to read -- further comprising --.

Re claims 13 and 14, claim line 2: The phrase "characterized by that" should be corrected to read -- further comprising --.

Re claim 14, claim line 3: The conjunction -- and -- should be inserted prior to the term "means". Appropriate correction is required.

7. Claims 7, 8, and 15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-6 and 9-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention.



Re claim 1, claim lines 15, 17, and 18: If one chooses to open valve (9) rather than the access valve (11), does the fluid trapped in the chamber still flow through the access valve on the way to the monitor system (2)?

Re claim 1, claim line 21: The term “possibly” is deemed to be indefinite because one is unclear if the phrase after the term possibly” is intended to provide a further limitation; or if Applicants only wish the fluid to be exited through any further fluid path.

Re claim 4, claim line 3: The term “preferably” is deemed to be indefinite because one is unclear if the phrase after the term preferably” is intended to provide a further limitation; or if Applicants wish to load a gas cavity by any means.

Re claim 9, claim lines 1-14: The claim is ambiguously constructed and indeterminate in scope because the claim purports to claim both an apparatus, claim lines 1-8, and method, claim lines 10-14, of using the apparatus in a single claim.

Re claim 12, claim line 3: The term “preferably” is deemed to be indefinite because one is unclear if the phrase after the term preferably” is intended to provide a further limitation.

Re claim 13, claim line 3: The term “preferably” is deemed to be indefinite because one is unclear if the phrase after the term preferably” is intended to provide a further limitation.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 4, 5, 9, 12, and 14/9 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,182,505 (Segeral).

With respect to the limitations of claim 1, Segeral disclose a method and apparatus for studying the properties of a multiphase fluid under pressure, whereby the fluid is to be directed to a chamber (20), wherein the sampling apparatus comprises: a first valve (24) providing a connection between an inlet (18) to the chamber (20) and the flow path (12); a second valve (26) providing a connection between an outlet (22) from the chamber (20) and a flow path (10 see Fig. 3), wherein the method comprises the following steps:

a) opening the first valve (24) and the second valve (26) to let the fluid flow through the inlet (18) to the chamber (20) and from the chamber through the outlet (22) into the continuation of the fluid path (col. 9, lines 23-33), thereby allowing fluid to circulate through the chamber (20) for a certain time;

b) trapping the fluid in the chamber (20) by closing the second valve (26) and thereafter closing the first valve (24) (col. 9, lines 33-36);

c) opening a valve (52) for reducing pressure, to obtain a pressure in the chamber (20) suitable for monitoring the fluid;

d) opening an access valve (52) and leading the fluid trapped in the chamber (20) into a monitor system (56) wherein the fluid is analyzed, and thereby providing data representing the fluid characteristics; and

e) providing an exit for the fluid analyzed through a further fluid path (54).

With respect to the limitation of claim 4, Segeral discloses that the conduits (18, 22, 54) are filled with gas prior to drawing the sample from the flow path. Thus, the conduits of the sampling system act as a gas cavity in a broad sense.

With respect to the limitation of claim 5, Segeral disclose that the fluid flows into the chamber (20) and the monitoring system (56) due to the pressure difference between the flow path and the pressurized conduits (18, 22, 54)(col. 9, lines 16-27).

With respect to the limitations of claim 9, Segeral discloses a sampling apparatus, comprising: an inlet (18) and a outlet (22) connected to a chamber (20); a first valve (24) connecting the inlet (18) to a flow path (12); a second valve (22) connecting the outlet (22) to the flow path; an access valve (52); and a monitoring system (56).

With respect to the limitation of claim 12, Segeral discloses that the conduits (18, 22, 54) are filled with gas prior to drawing the sample from the flow path. Thus, the conduits of the sampling system act as a gas cavity in a broad sense.

With respect to the limitations of claim 14/9, Segeral discloses that the fluid contained within the chamber (20) or the monitoring system (56) can be measured by optical means, which would invariably comprise a optical source, a detector, and processing means.

12. Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,370,005 (Fjerdingsstad).

Fjerdingsstad discloses a sampling apparatus (1), comprising: an inlet (12) and a outlet (14) connected to a chamber (22); a first valve (18) connecting the inlet to a flow path (12); a second valve (19) connecting the outlet (14) to the flow path; an access valve/vent (20); and a monitoring system (not shown).

Note: Apparatus claims are defined by their structure and not their intended use or functionality. If Applicants wish to have the intended use of the access valve (i.e. for leading fluid and reducing pressure) considered as a patentable limitation, then Applicants should consider using means plus function type language.

With respect to claim 10, Fjerdingsstad discloses that the vent (20) relieves pressure within the sampler (1).

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,905,510 (Brickhouse) in view of WO 99/00656 (Tolvanen et al.).

With respect to the limitations of claim 1, Brickhouse disclose a method for in situ sampling and monitoring of a fluid flowing in a flow path (20), whereby the fluid is to be

directed to a chamber (10), wherein the sampling apparatus comprises: a first valve (22) providing a connection between an inlet (12) to the chamber (10) and the flow path (20); a second valve (16) providing a connection between an outlet (14) from the chamber (10) and a flow path (waste disposal, col. 3, lines 23-24), wherein the method comprises the following steps:

- a) opening the first valve (22) and the second valve (16) to let the fluid flow through the inlet (12) to the chamber (10) and from the chamber through the outlet (14) into the continuation of the fluid path (col. 2, lines 41, 42, and 45-48), thereby allowing fluid to circulate through the chamber (10) for a certain time;

- b) trapping the fluid in the chamber (10) by closing the second valve (16) and thereafter closing the first valve (22) (col. 2, lines 58-60);

- c) opening a valve (28) for reducing pressure, to obtain a pressure in the chamber (10) suitable for monitoring the fluid (col. 3, lines 17-24);

- d) opening an access valve (32) and leading the fluid trapped in the chamber (10) into a monitor system wherein the fluid is analyzed (col. 3, lines 24-26), and thereby providing data representing the fluid characteristics; and

- e) providing an exit for the fluid analyzed through a further fluid path (14, 16).

Brickhouse fails to disclose placing the second valve in connection with the flow path.

Tolvanen et al. disclose an automatic sampling and treatment apparatus, comprising: a first valve (13a) in communication with a flow path (11); a second valve (13b) in communication with the flow path (13) in order to recirculated fluid back into the flow path after treatment of the fluid. Modifying the outlet of the chamber to recirculate

fluid from the chamber back to the flow path would have been obvious to one of ordinary skill in the art as a means of reducing waste and potential contamination by recycling the fluid taken from the flow path prior to gathering a sample or drawing off a sample for analysis.

With respect to the limitations of claim 9, Brickhouse discloses a sampling apparatus, comprising: an inlet (12) and a outlet (14) connected to a chamber (10); a first valve (22) connecting the inlet (12) to a flow path (22); a second valve (16) connecting the outlet (14) to a flow path (waste disposal), thereby allowing the chamber (10) to fill with fluid, circulate the fluid through the chamber for a certain time, and capturing fluid in the chamber (10); an access valve (32) for leading the captured fluid to a monitor system; and a valve (28) for reducing the pressure within the chamber (10). Brickhouse fails to disclose placing the second valve in connection with the flow path.

Tolvanen et al. disclose an automatic sampling and treatment apparatus, comprising: a first valve (13a) in communication with a flow path (11); a second valve (13b) in communication with the flow path (13) in order to recirculated fluid back into the flow path after treatment of the fluid. Modifying the outlet of the chamber to recirculate fluid from the chamber back to the flow path would have been obvious to one of ordinary skill in the art as a means of reducing waste and potential contamination by recycling the fluid taken from the flow path prior to gathering a sample or drawing off a sample for analysis.

With respect to the limitation of claim 10, Brickhouse discloses that the valve (28) relieves the pressure within the chamber (10).

15. Claim 14/9 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,370,005 (Fjerdingsstad) in view of WO 99/00656 (Tolvanen et al.)

With respect to the limitation of claim 14/9, Fjerdingsstad discloses all of the limitations of base claim 9; however, the reference fails to expressly recite the type or monitor system being used to determine the purity of samples.

Tolvanen et al. disclose an automatic sampling and treatment system, whereby a sample is drawn from a flow path (11) to be evaluated. Tolvanen et al. disclose that the liquid flows to a detector, which detects precipitation as a sudden increase of the intensity of scattered reflective light (optical source). The reference further discloses calculating (i.e. means for processing data) a parameter representing the tendency of solvents and oils to precipitate. Modifying the monitoring system of Fjerdingsstad to provide an optical system and processing means would have been obvious to one of ordinary skill in the art as a means of testing purity through light scattering techniques, as is well known in the art.

#### ***Allowable Subject Matter***

16. The following is a statement of reasons for the indication of allowable subject matter:

Prior art was not relied upon to reject claims 2, 3, 6, 11, and 13 because the prior art fails to teach and/or make obvious these limitations in combination with all of the limitations of base claims 1 or 9.

NOTE: Claims 7, 8, and 15 were not included in the above statement because the improper multiple dependencies make it difficult to determine the scope of the claims.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

The prior art to US 5,572,320 (Reintjes et al.) discloses a fluid sampled utilizing optical near-field imaging, whereby the sampler comprises a by-pass conduit attached to a flow path.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Larkin whose telephone number is 571-272-2198. The examiner can normally be reached on 8:00 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Daniel Larkin  
AU 2856  
15 November 2007



**DANIEL S. LARKIN**  
**PRIMARY EXAMINER**